TRANSACTIONS OF THE PHILADELPHIA ACADEMY OF SURGERY.

Stated Meeting, November 6, 1899.

The President, Richard H. Harte, M.D., in the Chair.

PYLOROPLASTY FOR NON-MALIGNANT STRICTURE.

Dr. John B. Roberts presented a man, fifty-five years of age, who had suffered with gastric symptoms accompanied by vomiting for fifteen or eighteen years. It was difficult to get from him an explicit history by which the exact date of the beginning of the vomiting could be ascertained. He, however, had been getting worse for the past year. He was greatly emaciated and vomited nearly all food taken. Eructations and intestinal flatulence were more or less constant symptoms when he first came under the reporter's observation in February, 1899. The character of the material vomited was suggestive of dilated stomach. This diagnosis was confirmed by physical examination, which showed the lower border of the stomach to be much lower than normal. The diagnosis reached was that the case was one of gastric dilatation, probably due to a non-malignant contraction of the pyloric orifice. The other organs of the patient seemed to be normal.

On April 4, 1899, a section was made through the abdominal wall, by which the pyloric end of the stomach was brought into view; a longitudinal incision through the anterior wall of the pylorus was then made. No tumor was found, but the muscular tissue surrounding the pylorus seemed to have become to a large extent fibrous. There was no distinct evidence of a cicatrix from previous ulceration, and no irregular puckering of the tissues. The longitudinal incision was sutured, as in the well-known operation of pyloroplasty, at right angles to the line of incision so as to increase the calibre of the orifice. The stomach seemed dilated, but there was no special evidence of it being displaced downwards.

The man promptly recovered from the operation, has gained many pounds in weight, and when seen a few weeks ago said that he could eat anything and digest it without difficulty.

Dr. Roberts added that in 1896 he operated upon a man who was thought to have a slowly growing infiltrating carcinoma of the pylorus. The patient had violent attacks of pain in the gastric region, and was willing to submit to operation because of his suffering. When the abdomen was opened and the stomach explored with the finger, no tumor was found and no contraction of the pyloric orifice. The patient made a prompt recovery from the operative procedure, and subsequently was greatly improved in his symptoms. He later, however, had some return of pain. The further history of the case is unknown. It was probably a case of gastralgia.

These two cases are of interest, as showing the ease and simplicity with which aseptic exploration of the stomach can be done, and emphasize further the fact that obscure cases are with propriety subjected to exploratory incision. The second case shows the difficulty of making the diagnosis even with the advantages now possessed by the profession in investigation of disorders of the stomach.

GASTRO-JEJUNOSTOMY.

DR. ROBERTS reported the following case: R. F., a man aged thirty-five years, who had had symptoms of pyloric obstruction for three or four years, was operated upon by him at the Polyclinic Hospital in November, 1895. He made an anastomosis by linear incision and suturing between the stomach and the jejunum. The patient died on the second day after operation after having had a temperature reaching 104°. An examination of the abdomen and seat of operation after death showed, however, no special evidence of septic inflammation.

INTESTINAL ANASTOMOSIS.

DR. ROBERTS presented a specimen showing a lateral anastomosis of the colon and sigmoid flexure made with the Murphy button three months previous to death. The patient was operated upon because of a spontaneous fæcal fistule in the left lumbar region resulting from malignant disease of the sigmoid flexure causing stricture. As the connection made by intestinal anastomosis did not divert the entire stream of fæces from the fistula in the loin, he re-opened the abdomen, and three months after the original operation extracted a portion of sigmoid flexure containing the malignant growth and the fæcal fistula. The intestine above and below the excised portion was then united end-to-end by means of a Murphy button. Death occurred from sepsis the day after the operation. The specimen showed the lateral anastomosis three months old with an opening not much contracted, and at the same time exhibits the second end-to-end anastomosis, which, however, has not had time to become united.

EXTIRPATION OF GASSERIAN GANGLION.

DR. JOSEPH M. SPELLISSY reported two cases of Gasserian ganglion extirpation, for the details of which see page 463.

DR. GWILYM G. DAVIS remarked as to the nutrition of the flap, that he had heard of a case sometime ago in which following the ligation of the external carotid artery the flap sloughed. The flap is cut with its base downwards; therefore, that cuts the vessels coming from above, and, ligating the external carotid, deprives it of blood from below. It is evident that in this case the nutrition of the flap was preserved, but it seems that it is not always so. A method of avoiding the possible occurrence of this disturbance of circulation would be by cutting the flap with its base upwards, instead of its base downwards. Then the circulation of the flap would continue through the blood-vessels, across the scalp, for the circulation in the scalp is very free and extensive.

DR. ADDINELL HEWSON said that the deep temporal artery comes from the internal maxillary and not from the temporal,—the terminal of the external carotid. The flap can be nourished from the branches of the internal maxillary artery. There are several temporal branches from that, and it does not require the temporal branches of the external carotid to nourish it, so that in performing the operation, as Dr. Spellissy did, he did the proper thing. He cut into the artery before he got to the portion of the internal maxillary. If he ligated below he would cut off the meningeal branches, of course, but if he ligated above, his object was to preserve the facial, so that he might get anastomosis with the flap through the facial artery and through the occipital. If he ligates below the internal maxillary artery he stops his middle meningeal, but if he ligates in the position he did, he allows the anastomosis to take place between the occipital and the superficial branches of the facial with anastomosis of the temporal.

DR. DAVIS rejoined that as he understood it, this ligation occurred below the internal maxillary. The internal maxillary is given off quite high up. The ligation in this case, he believed Dr. Spellissy said, was behind the angle of the jaw, that is, considerably below the internal maxillary. Therefore, no blood could have been supplied from the deep temporal arteries, nor the meningeal, nor the tympanic, small meningeal, or other various muscular branches. It was probably nourished from the facial.

DR. JOSEPH M. SPELLISSY said that the life of the flap was to be credited much to its good care by Dr. T. S. K. Morton. When its circulation was most in danger, when it was turned down during the operation and subjected to pressure, he gave it substantial help by keeping it warm with moist gauze. At the time of the operation, and for several days after, Dr. Spellissy was ignorant of the terminal history of the case to which Dr. Davis alluded. That the artery had been tied as a preliminary step and had been followed by immunity from middle meningeal hæmorrhage was known; but it was not known that the flap in this case had afterwards sloughed. Had Dr. Spellissy been aware of this he might not have dared to tie the external carotid artery, and had he learned it immediately after operating he would then have kept warm, moist dressings on the flap for a couple of days subsequent to the operation. The event, however, shows that such extraordinary precaution was unnecessary in the case reported.

CASES OF ANOMALOUS SPINOUS PROCESS OF THE SEVENTH CERVICAL VERTEBRA ARTICULATING WITH THE SCAPULA.

DR. H. AUGUSTUS WILSON presented two patients and read the histories connected therewith, for which see page 468.

DR. DE FOREST WILLARD said, that from personal experience he should say that these cases were absolutely unique. If he had ever seen such a condition, he had never recognized it. He could realize that such a condition might exist and on casual examination be taken for a lateral curvature or torticollis. He could not understand how a false rib could arise from the spinous process,—it would more probably spring from the lateral process—neither could he understand how the spinous process could become attached to the internal upper angle of the scapula, for in embryonic life the scapula in its natural condition is a considerable distance from the spinous process. There must have been some developmental fault with abnormal bone growth to have produced this condition which has been heretofore unrecognized.

So far as he could understand from the history, this was not an outgrowth or a prolongation from the spinous process, but was a bone articulated to it, and also to the scapula, extending directly across and adjoining the two. It would seem to be one of those congenital conditions of development that sometimes occur, but which are exceedingly rare. If this is an exostosis it is certainly in a very peculiar position. He saw a girl last week who had from fifteen to twenty of these exostoses, the tendency to proliferation being very marked in her case, but none of the growths resembling either of these specimens.

DR. ADDINELL HEWSON remarked that there might possibly be some explanation, judging from the formation of the supernumerary ribs as given in some of the works on anatomy on the subject. In the supernumerary rib we are told that the formation of that rib grows from the lower portion of that rib above and from the interarticular cartilage, and it seemed to him that there might have been a prolongation of this outwards along the body of the vertebra, and thence out along the canal to the spinous process. It is merely a surmise.

Then another point of explanation might come into this, in that the projection of the spinous process, as was hinted at by Dr. Willard, the spinous process might have been greatly enlarged and abnormally developed.

His idea was, on first seeing the case, instead of the spinous process being a simple knob, as it should be in the upper thoracic region, it has obtained more of the view of the spinous process in the cervical region which, above the seventh, ought to be bifid. It seemed to him, from the nature of the spinous process in the negro, that such a condition as this would be absolutely impossible, because the works speak of the deformity, knob-like and not bifid condition, of the lower part of the cervical region and the upper part of the thoracic region, although the knob of the spinous process in the thoracic region has been or is being seen not bifid. In these cases they might have been in a bifid condition. Dr. Wilson did not mention clearly in his paper that he saw any bifid condition of the spinous process.

The other point mentioned by Dr. Wilson is that it might have been a rhomboid muscle. This bone may be an hypertrophy of the lateral bony projections on the seventh cervical vertebra.

DR. WILSON said that the removed bone in each case appeared to be attached to the vertebral column as a spinous process is normally attached and then deflected to the left, and articulating with the scapula. It resembled a large spinous process and seemed to take the place of the seventh cervical vertebra.

Dr. De Forest Willard said that on examination of the bones removed the one from the smaller child has apparently not been cut away from the spinous process of the vertebra, but there is a true articulation. If this was an elongated spinous process there would be no such articulation. Dr. Wilson says there was not an articulation or joint at the scapular extremity. In the second case there also seems to be no articulation with the spinous process of the vertebra, and it bears evidence of having been cut away from the spinous process. Certainly the theory of a supernumerary rib would not be carried out.

Dr. H. Augustus Wilson said that with reference to Dr. Hewson's remarks about a bifid specimen, in describing the smaller specimen, attention was called to its having two distinct tuberosities at the vertebra, and in the smaller specimen Dr. Rugh found distinctly a separate articulation, not alone with the scapula, but as well with the vertebra. In the larger specimen Dr. Wilson found a distinct articulation with the scapula, and evidence of there having been previously a fibrous or distinct articulation with the spinal column.

With reference to Dr. Hewson's question as to muscles, it was difficult to definitely determine the exact anatomical positions and relations of muscles, as it was recognized that the presence of this supernumerary bone must alter any such relations.

THE USE OF FIXATION PLATES IN THE TREATMENT OF FRACTURES OF THE LEG.

Dr. Lewis W. Steinbach read a paper with the above title, for which see page 436.

Dr. De Forest Willard said that the application of the plate in place of wire certainly stiffens the bone and holds it in better position. It is, however, only in selected cases in which the application of the plate can be intended, in comminution or in cases where there is great displacement. Surgeons are realizing more and more the necessity for fixation of the fragments, rather than trusting them to the uncertainties of the callus, which may or may not be properly encircling the bone in such manner as to secure good union. He had seen in the last three years many cases of non-union and mal-union which illustrated the necessity of absolute fixation. Great security and comfort is obtained by the use of a fixed gypsum dressing that will keep the fragments in thorough position. The old fracture box allows a certain amount of motion and is very likely to be followed by poor results or great overlapping. With the help of the Röntgen rays, for definitely outlining displacement, and when it is impossible to bring the bones into good position, some operative treatment, some form of positive fixation should certainly be tried, and if aseptically performed, suppuration is rarely present and recovery is greatly facilitated. Not only do we gain in time, but we also gain in ultimate strength of bone. A large amount of callus interferes seriously with the circulation of the parts, and we have stiffening from adhesions of the tendons. Nerve-pressure frequently causes suffering and interferes seriously with the use of the member. This question of nerve-pressure and its ultimate results is a consideration which we should always take into consideration in the treatment of fracture.

Dr. Gwilym G. Davis said that in fractures of the leg, personally he was very loth to undertake operative measures. Take, for instance, in simple fractures, in which there is marked deformity, such as overlapping, as shown in one of the skiagraphs. The fracture almost always runs obliquely from below upwards and backwards, and the upper fragment is pushed forwards. That is almost the constant deformity, and it is increased by the tendo Achillis. Of course, the muscles which bridge the part naturally tend to increase the overlapping, so that whenever there is this troublesome deformity, the first thing to try is to put the leg in the Pott's position, which is bending the leg at right angles to the thigh and laying it on its outer surface, that is, relaxing the tendo Achillis. In some cases the fracture can be gotten into good position by that process. Should that fail, next try extension and counter-extension by means of a long fracture box going somewhat above the knee. Apply adhesive plaster extension from near the site of the fracture down and from a short distance above the site of the fracture up, fastening the upper adhesive strips to the top of the box. The foot is placed away from the foot-piece and two to six pounds are placed on the lower extension, that will oftentimes bring down another proportion of these cases. Should these two means fail, then resort to the third, which is division of the tendo Achillis. By a combination of these means, he had been able to get the most of his fractures into a satisfactory position. When it comes to compound fractures, even there he would not advocate so radical measures as have been advocated by many surgeons. Almost all of the compound fractures which he had seen had been treated conservatively. There is always a small percentage of operative cases. Anybody who sees any number of these fractures will occasionally come across one in which the wound is so extensive that there is some, but comparatively little, cutting to be done, in order to obtain control of the fragments and institute such treatment as desired; but when we come to fractures with comparatively small openings,—openings from a quarter of an inch to an inch in length,—I think the Treves method of covering the opening with powdered iodoform and placing the limb in a fracture box is such an extremely successful and satisfactory one that he hesitates to resort to operative measures. If, however, operative measures were needed, then he would be inclined to use some method similar to that of Dr. Steinbach.

DR. J. T. RUGH described a case which came under his observation about a year and a half ago. A man had previously had the operation, described by Dr. Steinbach, done for an ununited fracture of the tibia. Suppuration followed and continued profuse until he came to the hospital. Being a laboring man and without means, he had become so discouraged over the loss of his time and means of living that he would consent to nothing but amputation. The surgeon strongly urged an attempt to save the leg, but as the man was determined upon amputation, the leg was amputated. It was his privilege to examine the specimen, and he found the silver plate blackened and lying loose upon the anterior surface of the tibia. The screws were corroded by the action of the pus and secretions of the wound. The ends of the tibia, which had been in apposition at the time of operation, were eroded and softened, so that a space of an inch or more existed between them. There were no spiculæ or sequestra present.

Another case of interest in connection with this subject was one of non-union of the tibia following an osteotomy of both bones for an acute bow in the leg about five inches above the ankle-joint. The leg was opened in front, a section of bone removed from the fibula, the edges of the tibia freshened, and both bones secured by wire sutures. Suppuration ensued and in three months the wires were removed. The leg has been constantly kept in a plaster-of-Paris dressing and the wound has been dressed every other day. There is now firm union; but one or two small sinuses still persist. The boy is walking on the leg and will have a perfectly useful and straight member in spite of the unfavorable progress.

DR. ADDINELL HEWSON said that no allusion had been made to the adjustable screws of Clayton Parkhill. It seemed to him in cases where there is likely to be suppuration, the screws as advocated by Dr. Parkhill would come in very well, because they allow the proper amount of drainage to take place. He had recently had some experience with these,—not in the line of the cases presented by Dr.

Steinbach, but in cases of fracture of the femur. Since then, however, the apparatus has been very much improved, so that now, instead of using that apparatus as it was then presented,—the nickelled steel,—now they give us a nickelled silver. Wessel's silver is the trade name for it. It is entirely a solid metal and non-corrosive. It seemed to him that in some cases which are bound to result in suppuration, the application of the Parkhill screws, where the plate is entirely outside and the screws themselves act as drains for the pus that may be present, would act very well.

Dr. John B. Roberts called attention to the use of the Röntgen ray for the purpose of diagnosis. While we may gain a great deal by using the Röntgen method, there is a possibility that it may lead some at least, if not all, into mistakes. He saw quite recently a case of ununited fracture of the radius, which was probably indirectly caused by a reliance on the skiagraphic picture. He thoroughly agreed with Dr. Steinbach that a considerable number of fractures should be cut down upon and examined. We make mistakes at times in not exploring fractures. He would be inclined to resort to the plate in ununited fractures to get perfect position and steadiness after resection of the ununited fracture. He would be rather inclined for the ordinary fracture, if it did not keep in good position, to cut the tendo Achillis, as Dr. Davis has suggested, or to apply extension, and to reserve the plate for ununited fractures which need resection. Closed fractures, or those not accompanied by a wound, which do not give good position under ordinary manipulations, he would be inclined to nail together by some form of nails, box nails or a form of nail devised for that purpose.

Dr. Henry R. Wharton said that he believed in the primary fixation of the fragments in many compound fractures. He had practised this method in many cases and had had satisfactory results. He had not had very great trouble with the removal of the means of fixation, whether it be heavy silver wire, which is used in certain cases, or whether it be the silver plate fastened by means of screws. In some cases he had had wounds undergo aseptic healing and had had no trouble with the plate afterwards. But in a great many cases the removal of the wire or plate will be indicated in a few months, even if there has been no suppuration immediately after the application. Sometimes it causes irritation and a slight amount of suppuration may develop.

In certain simple fractures exploratory incision and fixation are indicated. Occasionally one comes across a deformity that he has trouble in correcting and it is necessary to resort to operation and some method of primary fixation. In a case under his observation of a simple fracture of the internal malleolus, a fracture of the lower portion of the fibula, the deformity of the fibula was so great and so persistent that he finally had to cut down on the fibula and wire the fragments together. In this case he had perfect healing of the wound; and up to the present time the wire has caused no irritation.

DR. STEINBACH said that he was not inclined to make an operative case of one that could be treated by simpler means; the four cases quoted in his paper were illustrative of those which require a plate or other equally radical measures, and the results obtained not only justify the measure adopted but speak in favor of the plate.